



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,730	12/10/2001	Yasuji Hiramatsu	P21047	1751

7055 7590 01/15/2004

GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER

KACKAR, RAM N

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,730

Applicant(s)

HIRAMATSU ET AL.

Examiner

Ram N Kackar

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-24 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-24 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Following office action is in response to RCE dated 12/17/2003.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 19-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa Masakazu (JP 11-040330) in view of Fukui Kiyoshi (JP 11-251040).

Furukawa Masakazu discloses a ceramic heater with a substrate made of carbide or nitride ceramic (Abstract) with a thickness of 0.5-5 mm (paragraph 0012) and a resistance heating body (Drawing 1) formed of a plurality of circuits (Drawing 1) on a face of the substrate opposite to the heating face (Drawing 2).

Furukawa Masakazu stresses the importance of temperature uniformity (Paragraph 14 and 25) but does not expressly disclose the scattering of thickness of the resistance heating body (which directly controls resistance and temperature) to be less than 50%.

Fukui Kiyoshi discloses a similar ceramic heater and discloses resistance body thickness dispersion less than 10% (Abstract).

Therefore it would have been obvious for one of ordinary skill in the art at the time invention was made to keep the thickness dispersion as small as possible so as to have uniform temperature at the heating face.

Art Unit: 1763

4 Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa Masakazu (JP 11-040330) in view of Fukui Kiyoshi (JP 11-251040) as applied to claim 19 and further in view of Arami et al (US 5591269).

Furukawa Masakazu does not disclose the resistance heating body formed on the insulating layer.

Arami et al disclose resistance-heating body formed on an insulating layer (Abstract).

Therefore, it would have been obvious for one of ordinary skill in the art at the time invention was made to provide heating resistance body on top of insulating layer so as not to have short circuiting, specially at high temperature when the resistance of the ceramic base gets low.

5 Claims 24 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa Masakazu (JP 11-040330) in view of Fukui Kiyoshi (JP 11-251040) as applied to claim 19 and further in view of Kawada et al (JP 07307377).

Furukawa Masakazu and Fukui Kiyoshi disclose all the limitations of these claims as stated in paragraph (2) above, except the surface roughness of the resistive heating body is not disclosed to be 0.05-100 μ m and the surface roughness of the heating body is not disclosed less than 50% of its average thickness.

Kawada et al disclose the surface roughness of a heating layer on a ceramic heater being greater than 5 μ m (Abstract).

Furukawa Masakazu discloses average thickness of the resistance body to be 1-20 μ m (Paragraph 0014) and with a 50% maximum, the roughness may be 0.5-10 μ m. This falls within acceptable disclosed level of roughness in the claim as well as in Kawada et al.

Therefore, it would have been obvious for one of ordinary skill in the art at the time invention was made to have the surface of the heating resistor body rough so that it may have good bonding with the base and cool quickly after the heating is turned off.

Response to Amendment

Applicant's arguments filed 11/6/2003 have been fully considered but they are not persuasive.

Applicant has tried to attack references individually. For example applicant tries to infer that Masakazu discloses scattering of thickness more than 50%. In fact Masakazu has not disclosed thickness scattering. Examiner has used the combination of references to reject Claim 19.

Unobviousness cannot be established by attacking the references individually when the rejection is based on a combination of references. *In re Novak* 16 USPQ 2d 2041, 2043 (Fed. Cir., BPAI 1989); *EWP Corp. v. Reliance Universal Inc.* 225 USPQ 20 (Fed. Cir. 1985); *In re Keller* 208 USPQ 871 (CCPA 1981); *Ex parte Varga* 189 USPQ 204 (PO BdPatApp 1973); *Ex parte Campbell* 172 USPQ 91 (PO BdPatApp 1971); *In re Scheckler* 168 USPQ 716 (CCPA 1971); *In re Young* 159 USPQ 725 (CCPA 1968); *In re Lyons* 150 USPQ 741 (CCPA 1966).

Applicant argues again that Kiyoshi is concerned with the inner layer and therefore there is no motivation or suggestion to combine with Masakazu.

The examiner disagrees. Since heating body is separated from the support surface in both the invention and in Masakazu as well as in Kiyoshi its effect on the temperature at the support

Art Unit: 1763

surface or the substrate is similar. Therefore the teaching is relevant and the combination is proper.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 571 272 1439. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.

RK

